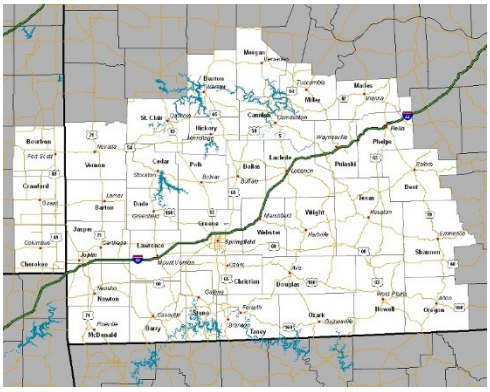
Summer Weather Decision Support

National Weather Service
Springfield, Missouri

This publication has been designed to enhance readiness and decision response by the emergency management community. Severe storms whether it be tornadoes, large hail, damaging winds or flooding can have a significant impact across the Missouri Ozarks and southeast Kansas.

Inside this issue:

Serving the Missouri Ozarks and extreme southeast Kansas

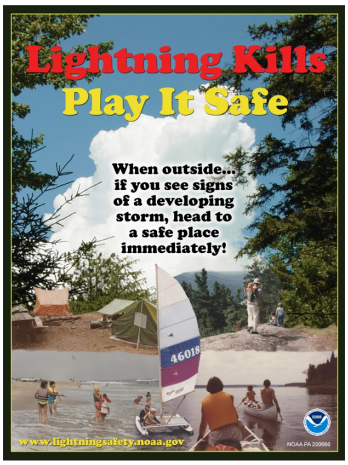


NWS Springfield has forecast and warning responsibility for 34 counties in the Missouri Ozarks and 3 counties in southeast Kansas.

NWS Springfield strives to serve decision makers with accurate and timely routine and hazardous weather information.

Summer Weather Decision Support

Thunderstorm Hazards & Monitoring



Thunderstorms are common during the summer months bringing a variety of weather hazards including lightning, flooding rains, hail, and damaging winds. Because of summer time outdoor and recreational activities, more people are vulnerable to thunderstorm hazards. The abundance of recreational opportunity on area lakes and rivers heightens this risk.

For lightning safety information go to:

http://www.lightningsafety.noaa.gov/

Here are resources for monitoring thunderstorm activity.

Text Products

Short Term Forecast

Issued on a 1-2 hour basis to relay the location, intensity, and movement of thunderstorms.

http://www.crh.noaa.gov/product.php?site=sgf&product=NOW&issuedby=sgf

Significant Weather Alerts

Issued for strong thunderstorms approaching severe limits with winds up to 50 mph and hail up to the size of nickels.

http://www.crh.noaa.gov/product.php?site=sgf&product=SPS&issuedby=sgf

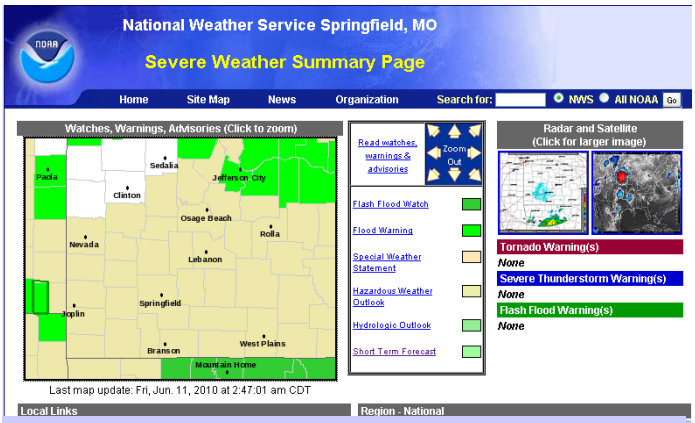
Severe Thunderstorm Warnings

Issued for thunderstorms producing

- Damaging winds of 58 mph (50 kts) or greater And / or
- Large hail of 1" in diameter or larger

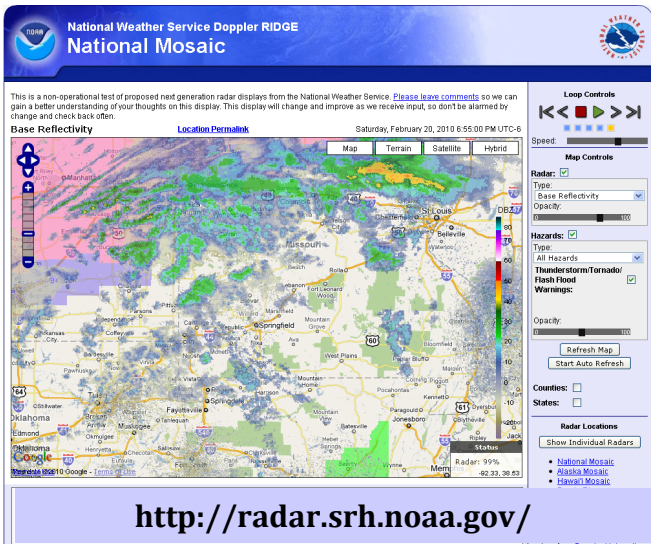
http://www.crh.noaa.gov/product.php?site=sgf&product=SVR&issuedby=sgf

Severe Weather Summary Page



http://www.crh.noaa.gov/hazards/sgf

Interactive Radar Page



http://radar.srh.noaa.gov/

Summer Weather Decision Support

Extreme Heat Decision Support

Summers get hot and humid here in the Ozarks. Although the Ozark Plateau prevents us from reaching temperatures as high as surrounding areas, summer heat can reach dangerous levels, especially when accompanied by humid conditions. This causes the apparent temperature to feel even hotter.

Temperature (°F)

Relative Humidity (%)	80	82	84	86	88	90	92	94	96	98	100	102	104	106	108	110
40	80	81	83	85	88	91	94	97	101	105	109	114	119	124	130	136
45	80	82	84	87	89	93	96	100	104	109	114	119	124	130	137	
50	81	83	85	88	91	95	99	103	108	113	118	124	131	137		
55	81	84	86	89	93	97	101	106	112	117	124	130	137			
60	82	84	88	91	95	100	105	110	116	123	129	137				
65	82	85	89	93	98	103	108	114	121	128	136					
70	83	86	90	95	100	105	112	119	126	134						
75	84	88	92	97	103	109	116	124	132							
80	84	89	94	100	106	113	121	129								
85	85	90	96	102	110	117	126	135								
90	86	91	98	105	113	122	131									
95	86	93	100	108	117	127										
100	87	95	103	112	121	132										

Likelihood of Heat Disorders with Prolonged Exposure or Strenuous Activity

Caution Extreme Caution Danger Extreme Danger

For more heat safety information go to:

http://www.crh.noaa.gov/sgf/?n=summer_safety

http://www.nws.noaa.gov/om/heat/index.shtml

Heat Illness Symptoms

Heat Disorder & Related Symptoms	
Sunburn	Redness & pain. Swelling of skin, blisters, fever, headaches.
Heat Cramps	Painful spasms usually in muscle of legs and abdomen.
Heat Exhaustion	Heavy sweating, weakness, skin cold, pale & clammy. Fainting & vomiting.
Heat Stroke	High body temperature (>105) Hot dry skin. Rapid pulse. Possible unconsciousness.

Heat disorders generally have to do with a reduction or collapse of the body's ability to shed heat by circulatory changes and sweating, or a chemical (salt) imbalance caused by too much sweating. When heat gain exceeds the level the body can remove, or when the body cannot compensate for fluids and salt lost through perspiration, the temperature of the body's inner core begins to rise and heat-related illness may develop.

Heat Index & Related Heat Disorder	
130	Heat stroke likely
105-130	Sunstroke, Heat Cramps or Heat Exhaustion likely
90-105	Sunstroke, Heat Cramps or Heat Exhaustion likely

Extreme Heat Decision Support

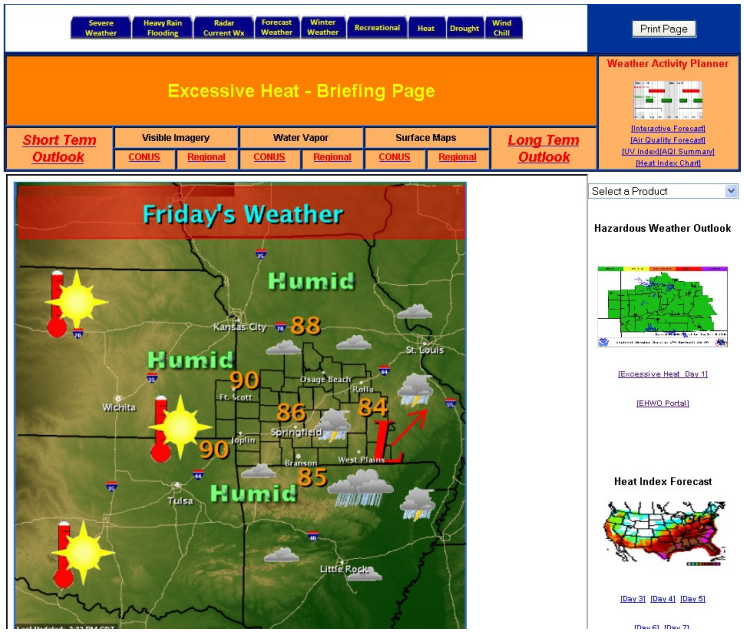
The National Weather Service issues:

Heat Advisories for heat indices ≥ 105° or ≥ 100° for four consecutive days

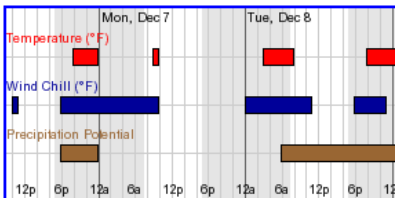
Excessive Heat Warnings for heat indices ≥ 110° or ≥ 105° for four consecutive days

For overview of the potential for excessive heat go to our Excessive Heat Briefing Page

http://www.crh.noaa.gov/sgf/?n=heat_brief



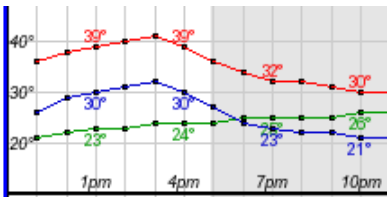
Forecast Temperature & Heat Index Tools



Weather Planner

This interactive forecast display allows users to produce forecast for general planning purposes based on user defined parameters.

http://forecast.weather.gov/wxplanner.php?site=sgf



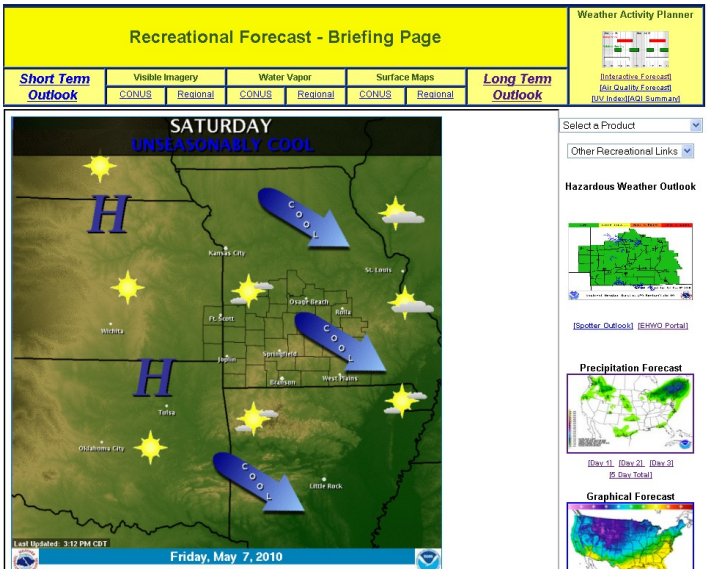
Interactive Forecast Map

Hourly Weather Graphs and tables are available using the interactive forecast map. Simply select the forecast format you desire and select the location of choice.

http://forecast.weather.gov/gridpoint.php?site=sgf

Recreational Weather

Forecast a package of forecast information go to our Recreational Forecast Briefing page.



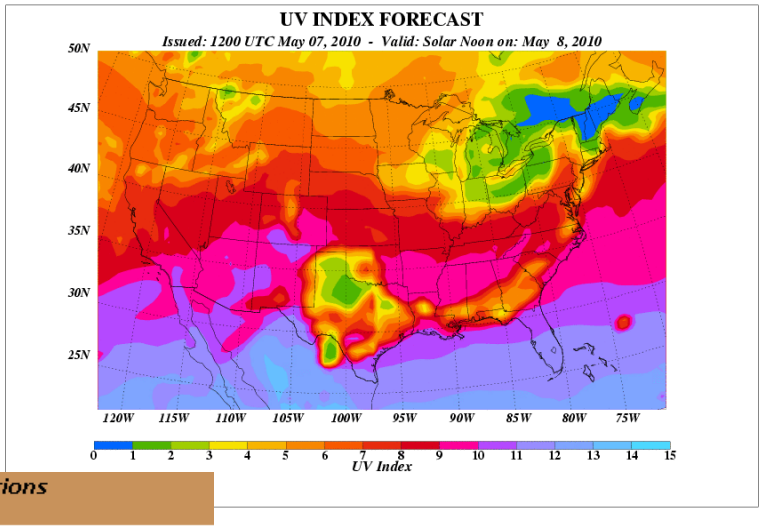
http://www.crh.noaa.gov/sgf/?n=recreation _forecast

Outdoor recreational opportunities to enjoy the Summer sun abound in the Ozarks region. However, extended time in sun can be harmful. Here are resources to assess need precautions to protect your skin from the harmful effects of ultraviolet rays.

UV Index Forecast Resources

http://www.epa.gov/sunwise/uvindex.html

http://www.nws.noaa.gov/os/uv/

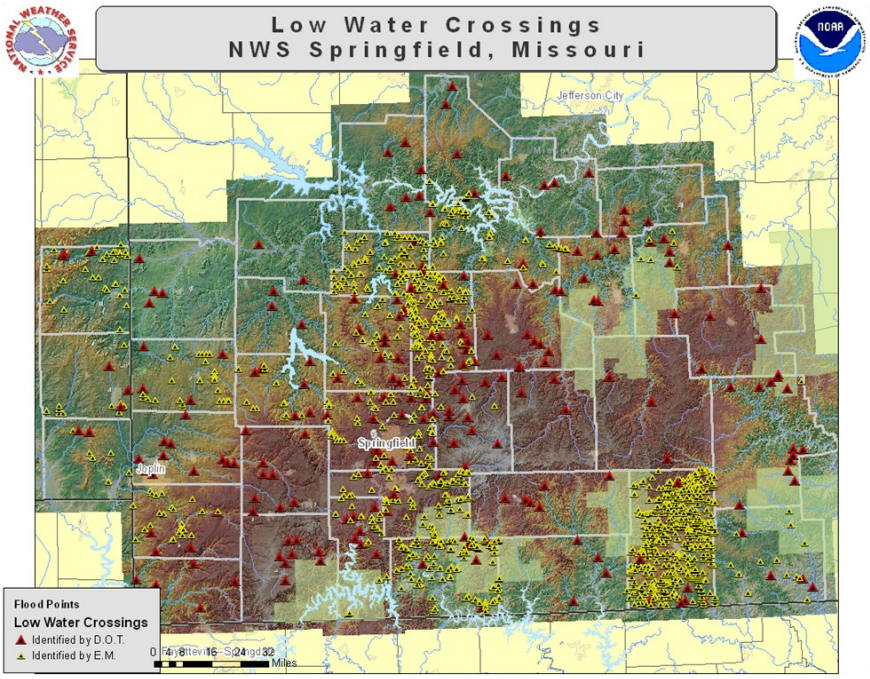


Exposure Category	UV Index	Protective Actions
Minimal	0, 1, 2	Apply skin protection factor (SPF) 15 sun screen.
Low	3, 4	SPF 15 & protective clothing (hat)
Moderate	5, 6	SPF 15, protective clothing, and UV-A&B sun glasses.
High	7, 8, 9	SPF 15, protective clothing, sun glasses and make attempts to avoid the sun between 10am to 4pm.
Very High	10+	SPF 15, protective clothing, sun glasses and avoid being in the sun between 10am to 4pm.

Flash Flood Risk Analysis Project

Flooded low water crossings pose a serious threat to life in the Ozarks. Hundreds if not thousands of low water crossings dot the landscape of the Ozarks and are routinely traveled by many. Recent flood events have demonstrated the dangers of low water crossings with numerous water rescues. To locate and better understand flood prone areas, NWS Springfield has developed the Flash Flood Risk Analysis Project. For more information go to...

http://www.crh.noaa.gov/sgf/?n=ffrap_index

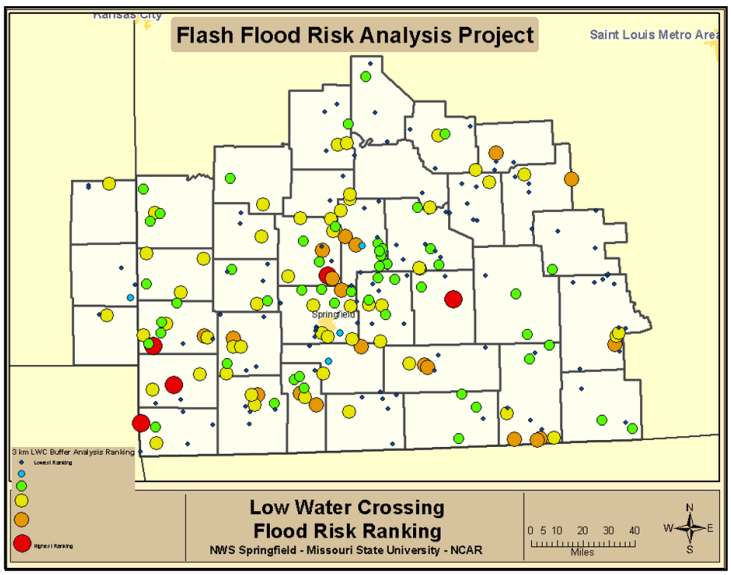


Over 1500 low water crossings have been plotted.

Low water crossings are being analyzed to understand their frequency, impact and overall risk.

To view the locations of low water crossings and the accompanying risk level go to ...

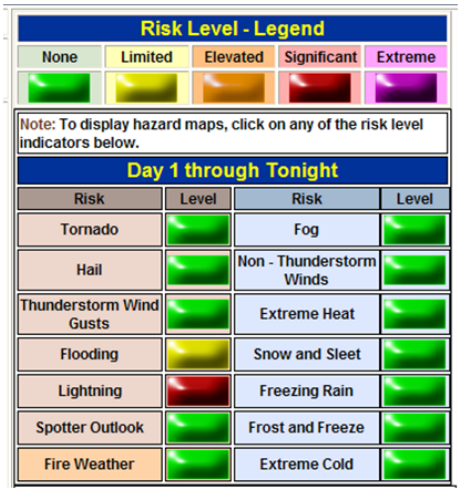
http://www.crh.noaa.gov/sgf/?n=ffrap_lwc



Enhanced Hazardous Weather Outlook

The Enhanced Hazardous Weather Outlook (EHWO) is a decision support service that supports preparedness and response efforts prior to and during hazardous weather. The EHWO provides decision makers with convenient access to potential weather hazard information by graphically depicting the risk of weather hazards through day seven.

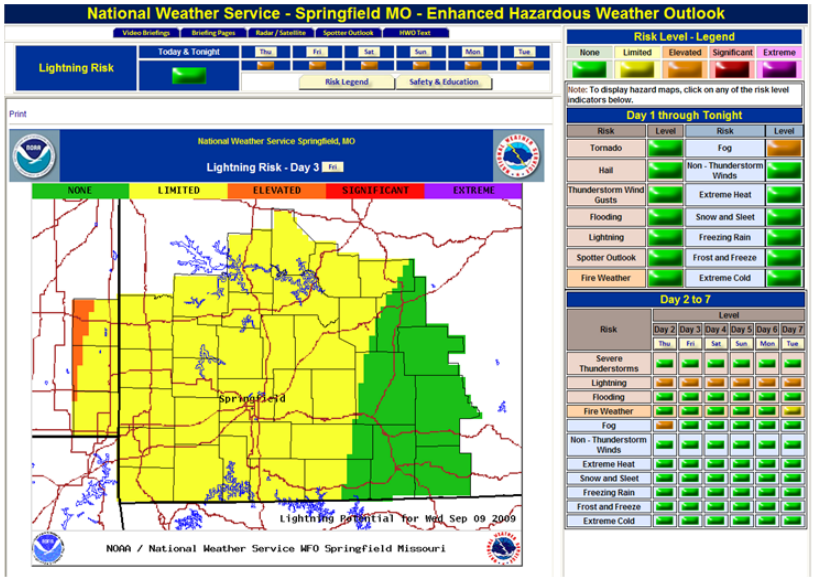
The EHWO packages five-level, color coded alert buttons and text within a comprehensive web page suite.



http://www.crh.noaa.gov/sgf/?n=dec_sup_main

The Enhanced Hazardous Weather Outlook (EHWO) page provides:

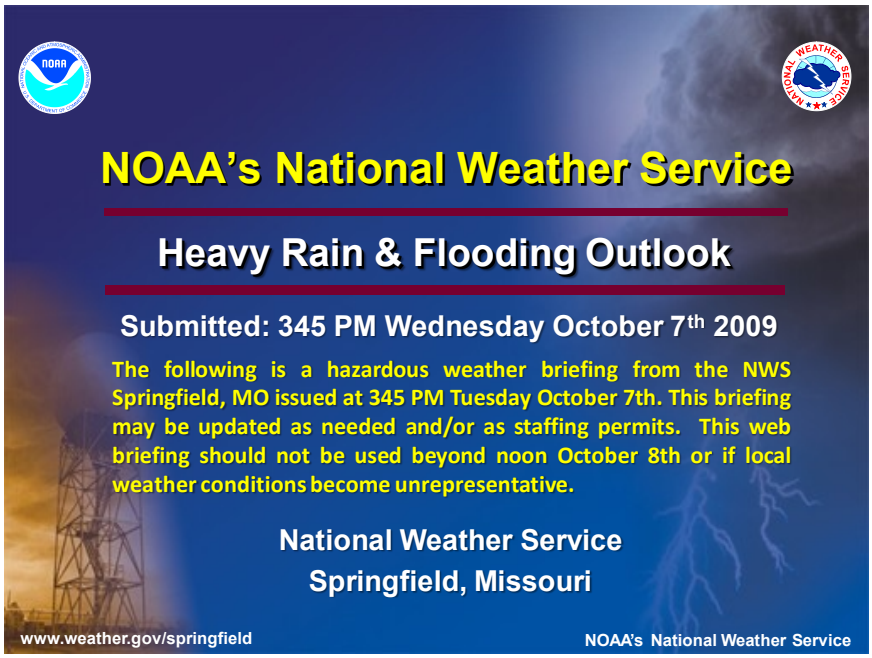
- Weather Hazard Graphics depicting the type, severity and coverage of weather hazards
- Hazardous Weather Buttons conveying hazardous weather risk levels for a given day
- Hazardous Weather Outlook text
- Spotter Outlook Graphic that portrays the need for spotter activation
- Link to briefing pages that provide packaged information for a given weather hazard
- Links to video briefings that elaborate on a given hazardous weather event
- Links to GOES satellite and NEXRAD radar
- Risk Legend section that defines the risk levels
- Safety and Education information for a given weather hazard



Multi-Media Hazardous Weather Briefings

In order to provide critical weather information, the NWS in Springfield, is now producing Multi-Media Hazardous Weather Briefings. The video briefings available on the NWS Springfield web site provide a summarized briefing of anticipated hazardous weather including winter storms.

These briefings will contain headline text and graphics to provide an overview of an event. Multi-media Hazardous Weather Briefings will generally be issued prior to hazard weather events. It is important to note that these briefings are not a substitute for other NWS products and warnings, but serves to compliment these services.



Video web briefings may be submitted for the following events.

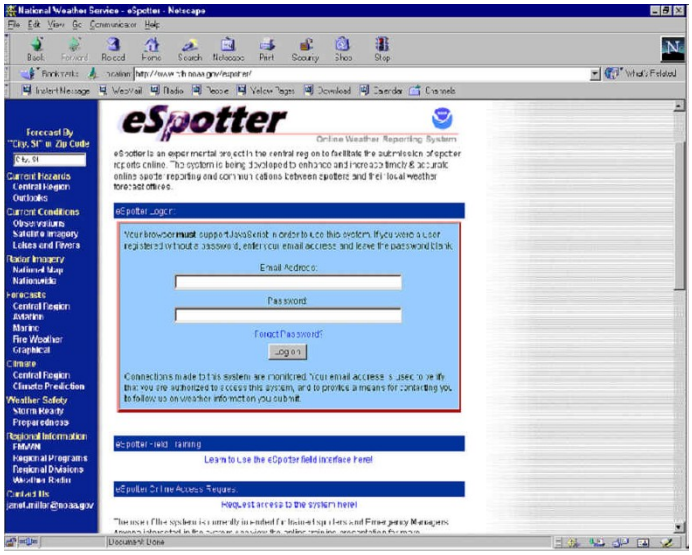
- Severe Weather – Slight, Moderate or High risk of severe thunderstorms or high confidence of significant coverage of severe weather.
- Flooding – Flash flooding of numerous small streams or low water crossings as well as significant river flooding.
- Winter Storm– Winter storms with significant accumulation and/or resulting in significant impact.
- Other significant events - High wind events, Extreme heat, etc.

http://www.crh.noaa.gov/sgf/?n=webbriefing

Communication

Effective communication is critical during severe weather to ensure accurate and timely information is disseminated to the proper authorities, the National Weather Service and the general public. The diagram below illustrates the basic flow of information.

eSpotter



eSpotter is a system to facilitate the submission of spotter reports online. The system enhances and increases timely & accurate online spotter reporting and communications between spotters and their local weather forecast offices. The use of the system is currently available for trained spotters and emergency managers.

To sign up go to...

http://espotter.weather.gov/

Twitter

The National Weather Service has started a testing phase to assess the potential for Twitter as a public weather reporting tool. During hazardous weather, reports of what is happening in your area can help forecasters make important decisions about warnings. Twitter may provide us with an easier way of getting some of those reports. A number of offices across the country, including the Springfield Weather Forecast Office, will be monitoring a specialized search page during significant weather events that will show weather reports posted on Twitter.

http://www.crh.noaa.gov/news/display_cmsstory.php?

Summer Weather Decision Support

National Weather Service
Springfield, MO Weather Forecast Office
Springfield-Branson Regional Airport
5805 West Highway EE
Springfield, MO 65802-8430

The mission of the National Weather :

The National Weather Service (NWS) provides weather, hydrologic, and climate forecasts and warnings for the United States, its territories, adjacent waters and ocean areas, for the protection of life and property and the enhancement of the national economy.

NWS data and products form a national information database and infrastructure which can be used by other governmental agencies, the private sector, the public, and the global community.

http://www.weather.gov/springfield

Storm Report Resources

Storm Prediction Center

http://www.spc.noaa.gov/climo/online/

Climatic Data Center

http://www4.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwEvent~Storms

NWS Springfield Severe Weather Climatology

http://www.crh.noaa.gov/sgf/?n=severeweatherclimatology